A visceral aortic branch anomaly presenting with a common celiomesenteric-renal trunk

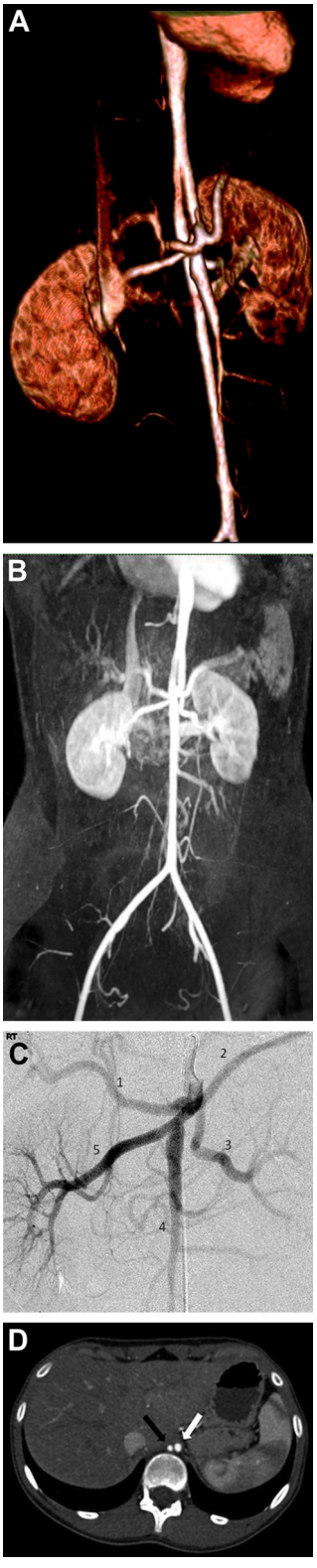
Peter H. Connolly, MD, Andrew J. Meltzer, MD, Katherine A. Gallagher, MD, and **Rajeev Dayal, MD,**
New York, NY

A 14-year-old girl was referred for evaluation of lower-extremity fatigue and intermittent abdominal pain in the setting of an unusual anatomic variant discovered by computed tomographic scan. Review of the imaging studies demonstrated the celiac artery, superior mesenteric artery (SMA), and bilateral renal arteries apparently sharing a common, distinct aortic trunk (*A* and *B*). Distal to this bifurcation, the aorta was significantly narrowed. A selected aortic branch angiogram (*C*) clearly shows the orientation and takeoff of the common hepatic artery (*1*), splenic artery (*2*), left renal artery (*3*), superior mesenteric artery (*4*), and right renal artery (*5*). The patient had an otherwise unremarkable examination, normotensive brachial pressures, and palpable pedal pulses. Ankle brachial indexes were 1.1 bilaterally.

The aorta measured 5 mm at its narrowest point (*D, black arrow*), and the common trunk was >10 mm (*D, white arrow*). Because the patient's lower-extremity symptoms were inconsistent with intermittent claudication and her abdominal complaints were not suggestive of visceral malperfusion, intervention was deferred. A continued exercise program and close follow-up were recommended at that time.

Although a number of different visceral-aortic variations have been reported in the literature, we believe this is the first description of a common trunk for the celiac, SMA, and bilateral renal arteries. A common celiomesenteric trunk has been described but accounts for <1% of aortomesenteric variations.[1] Involvement of the renal vessels has not been reported.

Usually, the main renal arteries have their origins predominantly from the aorta, variations of which are rarely described. Most reports of renal artery variation typically deal with anomalous origins of accessory renal arteries in numerous distributions, including origins from the inferior mesenteric artery, contralateral main renal artery branches, and a common aortic trunk.[2] In this case, the left renal artery arises from the very proximal main trunk and the right renal artery between the origins of the celiac and SMA.



REFERENCES

1. Michels NA. Blood supply and anatomy of the upper abdominal organs with a descriptive atlas. Philadelphia, PA: JB Lippincott Company; 1955. p. 139-43.
2. Anson BJ, Richardson GA, Minear WL. Variations in the number and arrangement of the renal vessels. A study of the blood supply of four hundred kidneys. J Urol 1936;36:211-9.

Submitted May 20, 2011; accepted Aug 26, 2012.

From New York Presbyterian-Columbia/Cornell.
Author conflict of interest: none.
E-mail: pec9018@med.cornell.edu.
The editors and reviewers of this article have no relevant financial relationships to disclose per the JVS policy that requires reviewers to decline review of any manuscript for which they may have a conflict of interest.
J Vasc Surg 2013;57:1675
0741-5214/$36.00

http://dx.doi.org/10.1016/j.jvs.2012.08.097